

The Semaphorin Gene Family

ABSTRACT OF THE DISCLOSURE

5 A novel class of proteins, semaphorins, nucleic acids encoding semaphorins,
semaphorin peptides, and methods of using semaphorins and semaphorin-encoding nucleic
acids are disclosed. Semaphorin peptides and receptor agonists and antagonists provide potent
modulators of nerve cell growth and regeneration. The invention provides pharmaceutical
compositions, methods for screening chemical libraries for regulators of cell
growth/differentiation; semaphorin gene-derived nucleic acids for use in genetic mapping, as
10 probes for related genes, and as diagnostic reagents for genetic neurological disease; specific
cellular and animal systems for the development of neurological disease therapy.